DOCUMENT RESUME

ED 453 190 SP 039 991

AUTHOR Ellis, Nancy; Whyte, Alyson
TITLE Orchestrating Narrative and Paradigmatic Cognition: Prospective and Practicing Teachers Theorizing Classroom Practice.
PUB DATE 2001-04-13
NOTE 30p.; Paper presented at the Annual Meeting of the American Educational Research Association (Seattle, WA, April 10-14, 2001).
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Elementary Secondary Education; Freehand Drawing; Group Instruction; Grouping (Instructional Purposes); Higher Education; Preservice Teacher Education; Student Teachers; *Teacher Collaboration; Videotape Recordings; World Wide Web
IDENTIFIERS Complex Instruction; Practical Knowledge; *Teacher Knowledge

ABSTRACT

This study investigated how electronically transmitted multimedia collaboration facilitated appropriation of pedagogical and conceptual tools by preservice and practicing teachers in two different regions of the country, all of whom were interested in groupwork. Researchers sought to support practicing teachers' implementation of complex instruction by provoking reiterative analytic search of key theoretical propositions necessary for providing constructive criticism of prospective teachers' graphic representations of group work. They also sought to support preservice teachers' appropriation of important propositional knowledge and corresponding pedagogical tools through the exchange of intellectual resources with practicing teachers. Researchers posted on a Web site preservice teachers' drawings of groupwork for critique. The drawings represented various partial appropriations of the pedagogical tools central to complex instruction. A classroom videotape was also posted to encourage discussion of potential problems in using student groups. Data from focus group discussions and critiques of drawings indicated that: drawing helped formalize teachers' understanding of pedagogical and conceptual tools; critiques highlighted patterns of representation and misrepresentation of conceptual and pedagogical tools that occurred; multiple simulations were important for understanding the nature of teaching and learning through groupwork; and videotapes of practicing teachers shown on a Web site could generate interaction between teachers in diverse regions. (Contains 31 references.) (SM)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 453 190

Orchestrating Narrative and Paradigmatic Cognition: Prospective and Practicing Teachers Theorizing Classroom Practice

Nancy Ellis, University of Vermont, and Alyson Whyte, Auburn University*

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Paper presented at the annual meeting of the American Educational Research Association
Seattle, Washington
April 13, 2001

"We all live inside stories . . . . there is more of a sense of a person living inside a story than there is of a person living inside a theory or living inside an ideology. Indeed, to live inside a theory or to live inside an ideology is to live inside a story of oneself."
--F. Michael Connelly, Jean Clandinin, & Ming Fang He, 1997

"There is nothing as practical as a good theory."
--Elizabeth G. Cohen, 1994

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY
N. Ellis
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Our Shared Purpose

Our initial purpose as collaborative teacher researchers was to investigate electronically transmitted multimedia collaboration to facilitate the appropriation of particular pedagogical and conceptual tools by preservice and practicing teachers in two different regions of the U.S. Preservice teachers who were enrolled in a large introductory foundations of education course in the southeastern U.S. and participating practicing teachers active in a northeastern university's Complex Instruction professional development program shared a common interest stemming from the personal learning trajectories of the teachers in both groups: The prospective and practicing teachers alike had become interested in implementing groupwork in elementary and secondary school settings.

---

*We rotate the order of authorship when we work and write together. Each of us has contributed equally to this text.

SP039991

BEST COPY AVAILABLE

Graphic representations of teaching made by preservice teachers enrolled in the introductory foundations course during the initial semester of this study (January through April 2000) indicated widespread interest in group tasks as a way of teaching and also widespread lack of understanding of key conceptual underpinnings and pedagogical features of groupwork for the learning of ideas beyond facts and algorithms. The preservice teachers' representations of groupwork sometimes included no explicit features of high-quality implementation of this way of teaching beyond the term "groupwork" as a label and the physical arrangement of students in groups of five or six students each. Most of the preservice teachers' representations of groupwork included representations of teacher behaviors inconsistent with high-quality implementation of this way of teaching, such as inappropriate teacher intervention during group interaction or the mismatch of a right-answer task with arrangement of students in small groups directed to discuss the task.

We sought to further the participants' personal practical knowledge and relevant formal and propositional knowledge through collaboration between these two groups remote from each other in experience and geographic location but connected by a common interest in groupwork. In the case of the practicing teachers, we sought to support the teachers' achievement of mastery in implementing Complex Instruction in their classrooms by provoking reiterative analytic search of key theoretical propositions (Swanson 1997) necessary for these teachers to provide constructive criticism of the prospective teachers' drawings of groupwork. We sought to support the preservice teachers' appropriation of important propositional knowledge and corresponding pedagogical tools (Grossman, Smagorinsky, & Valencia 1999) through the exchange of

intellectual resources with practicing teachers knowledgeable about relevant formal knowledge and corresponding nonroutine pedagogical tools and also through generation of further drawings and dialogue that were in a nontrivial way a joint product of the preservice and practicing teachers who participated in this electronically transmitted multimedia conversation (Cohen & Cohen 1991, Comstock & Scott 1977, Perrow 1967).

Our questions as teacher researchers were therefore

1. **How does electronically mediated "talk" foster the development of personal practical knowledge and relevant propositional knowledge among preservice teachers?**
2. **What reiterative analytic searches occur among participating practicing teachers?**

Our Stance as Collaborative Teacher Researchers

Wideen, Mayer-Smith, and Moon (1996) have defined two prevailing views of knowledge utilization in the social sciences and in the field of education, neither of which, in isolation from the other, serves student learning or knowledge production about teaching and learning well. The social science community has increasingly questioned the view of knowledge utilization which burgeoned during the 1960s and 1970s, the approach to knowledge utilization Wideen et al. term the "producer-user" perspective and which Fenstermacher (1994) has termed "formal knowledge." Positivist approaches to educational research and technicist applications of propositional knowledge to practice have been widely criticized by educational researchers (e.g. Clandinin 1986; Connelly,

Clandinin, & Ming Fang He 1997; Grossman, Smagorinsky, & Valencia 1999; Johnston 1992; Schön 1983; Shulman 1987). In part in reaction against the construction of teachers as deficient in knowledge and the construction of teachers as instruments, not participants, in the reform of practice, educational research during the 1980s and 1990s increasingly defined knowledge as being actively constructed, inextricable from local context, and inevitably heteroglossic and changing (Bakhtin 1981). Teacher story has been a major form of data within the larger enterprise of research on personal practical knowledge (e.g. Britzman 1991, Clandinin 1986, Elbaz 1983, Gudmundsdottir 1990). This second, more recent view refers to knowledge utilization through terms such as "reflection in action" (Schön, 1983), "practical knowledge" (Elbaz 1983), "personal practical knowledge" and "theory in action" (Clandinin 1986), "pedagogical reasoning and action" (Shulman 1987), and "non-propositional knowing-in-action" (Munby & Russell 1989). Conceptualization of knowledge and knowledge use among teachers now includes that during the development of competence, performance of new knowledge through active participation with others may come before mastery of new conceptual and pedagogical tools (Grossman et al. 1999; Senger 1999). Appropriation of new conceptual and pedagogical tools for use in the classroom may comprise learning the name of a tool but none of its features, appropriating surface features of a tool but not yet understanding how those features contribute to a conceptual whole, grasping the theoretical basis for a tool without knowing the tool's label, or knowing a tool's theoretical basis without knowing the tool's pedagogical applications (Grossman et al. 1999).

Failure to value teachers' experience and knowledge generated elegant unimplemented or misimplemented curricula during the 1960s and deskilling formulae of

teacher behaviors during the 1970s (Wideen et al. 1996). The most recent version of "producer-user" thinking is presently constraining authentic, effective teaching through bureaucratic control structures including the monitoring of school operations through high-stakes tests (McNeil 2000). Conversely, exclusive reliance on teachers' own elementary and secondary school experiences and on beginning teachers' family and friends who are teachers to inform teachers' practice is just as grave an error, precluding teachers' use of available formal knowledge relevant to their personal trajectories as learners (Bowman 2000).

Lotan's (1985) and Ellis and Lotan's (1997) investigations into the association between understanding of the theoretical and empirical knowledge base underlying Complex Instruction (Cohen & Lotan 1997) and teachers' success in implementing the pedagogical tools that constitute Complex Instruction have demonstrated the value of integrating the two realms of knowledge utilization defined by Wideen et al. (1996). Teachers' overall understanding of the knowledge base of Complex Instruction and feedback to teachers aligned with this propositional knowledge predicted the rate of nonroutine teaching behaviors accomplished by practicing teachers (Ellis & Lotan 1997). These nonroutine behaviors are associated with the rate of high-quality interaction among students and with gains in measures of conceptual learning (Ellis & Lotan 1997; Cohen, Lotan, & Holthuis 1997).

When teachers' plans for their future practice intersect with relevant propositional knowledge (generated through extensive applied research), there is no virtue in marginalizing formal knowledge out of desire to respect teachers' authority and virtuosity. Congruence between teachers' existing images of good practice and existing

technical knowledge (generated through systematic application of theory) permits communities of practice where learning as participation and learning as acquisition (Sfard 1998) co-reside.

Procedures

During the initial semester of this study, spring (January-April) 2000, 114 preservice teachers and other undergraduates enrolled in the semester-length introductory foundations course in Florida generated drawings of "a teacher teaching and students learning" during the final class session. A requirement during the course was the completion of 15 hours observation of elementary and secondary school classrooms. One reading had been assigned representing each of the following academic disciplines: the history of education, the politics of education, anthropology of education, sociology of education, and philosophy of education, and the students were responsible for writing a paper summarizing some of the content of these readings and reflecting on their observations of classrooms (Whyte 2000).

Among the 114 drawings whose makers permitted us to study and publish their work, more than 60 percent (74 drawings) represented teaching as organizing students in groups where student-to-student interaction would or could occur. Whyte and the other instructor of the introductory course during the first semester of Whyte and Ellis' study, Dr. Pat Dixon, examined the drawings of groupwork and placed them in categories based upon the apparent extent to which the drawings represented mastery of teaching through group tasks.

Of the 74 drawings which represented groupwork, the instructors categorized 15 drawings as "substantive, consistent" images of groupwork (few or no inconsistencies with the following features: a true group task requiring multiple intellectual abilities, delegation of authority to students through norms and/or roles, and teacher observation and intervention during group interaction to extend student thinking). The instructors set aside 6 of the total 74 drawings of groupwork as uncodeable and the remaining 53 of the drawings as representing nominal to partial representation of the pedagogical tools central to managing groups that are working simultaneously on different ill-structured problems. Typical features of the drawings categorized as "partial appropriation" were assignment of a right-answer task to students instructed to work together in groups of four or more students and teacher intervention that disrupted rather than extended negotiation of meaning within the group.

We selected 15 images to post on a simple website for critique on a discussion board by experienced teachers in Vermont who were familiar with the principles central to Complex Instruction (Cohen & Lotan 1997) and who were implementing Complex Instruction. The images posted on the website represented various partial appropriations of the pedagogical tools central to Complex Instruction. The posted images also included examples of the most elaborated and consistent images of groupwork that were in the set of spring 2000 drawings. This website can be viewed at http://www.fsu.edu/~CandI/English/fac/white/pictures.html.

Whyte planned that during the fall 2000 semester, several sessions of the introductory foundations course would be devoted to whole-class review of the critiques on the website by the experienced Complex Instruction teachers in Vermont, to whole-

class posting of responses by the preservice teachers in Florida, and to whole-class selection of further images to post. To analyze the talk on the website and during class sessions, we planned to use Bruner's (1994) definitions of narrative and paradigmatic cognition, Lotan's conceptions of routine and nonroutine teacher knowledge (Ellis & Lotan 1997), terms for specific pedagogical and conceptual tools central to Complex Instruction (Cohen and Lotan 1997), and/or Grossman et al.'s levels of appropriation of conceptual and pedagogical tools.

When Whyte led the first class session for review of the images and of the comments by teachers in Vermont posted to the website, however, the 120 students in plenary session were less expressive and less emotionally engaged than during a typical class session. The students seemed to "glaze over" right away, as Whyte put it to Ellis in a telephone conversation after that class session.

Further, only one Vermont teacher, an expert Complex Instruction teacher, and Ellis posted responses to the drawings on the site. The experienced Complex Instruction teachers in Vermont with whom Ellis works were pressed for time in their regular work, and the commentary was an added activity with no concrete incentive and no programmed time during which to do it. We did not consider inviting the teachers to meet to make the comments. It was difficult for them to commit to any meetings having to do with Complex Instruction, even for updates on one another's progress and work in their own classrooms. Professional days were scheduled and programmed by the district or the school principals. Even though the researchers offered to pay for substitutes, teachers were reluctant or forbidden by school or district policy to leave their classrooms, even for professional development purposes. Time which Ellis and Vermont trainers

could muster to gather the teachers within a school was so limited that they used that small amount of time for updating Complex Instruction observation schedules, talking about the more difficult aspects of Complex Instruction, and helping teachers develop curriculum.

In collaboration with Ellis, Whyte shifted partway through the fall 2000 semester from reliance on the website to a strategy of using video as the basis for discussion of problems that can arise within student groups and of organization of the classroom for small group work. First, during discussion of a chapter on instruction and assessment in Oakes and Lipton's (1999) *Teaching to Change the World*, the course text, Whyte facilitated plenary discussion of videotape of three middle school students within a task group whose interaction is limited by a status problem. The chapter the preservice teachers were responsible for having read that day presented and elaborated on the ideas of constructing competence through multiple-abilities lessons and constructing the competence of low-status children. Discussion of the video clip was lively, and as the class re-viewed the videotape and continued to discuss it, members of the class argued that the low-status member of the group on the videotape, a student the initial respondents to the clip had said seemed to be "clowning around," had, rather, been making intellectually valuable contributions which the other members of his group did not appear to attend to or act upon.

In a second use of videotape, Whyte taped her section of 30 members of the 120-student class experiencing "Broken Squares," a skillbuilder for establishing cooperative norms within small task groups, and then experiencing the first day of a Complex Instruction social studies unit which had as its "big idea" why people construct buildings

(middle school social studies). The next class session, one week before the final examination for the course, the 120 students in the course watched clips from the simulation of "Why We Build," followed by explication by Whyte of which "essential elements of classroom organization" were present in the video. The final exam, announced at the beginning of the semester, was a drawing of a classroom representing sound task design, classroom management, accounting for heterogeneity among students, and assessment—the four "essential elements of classroom organization" (Scarloss and Schultz 2000)--and written explication of the drawing, connecting the drawing with the content of the course text and with the required observations of K-12 classrooms (Dixon and Whyte, in press)[1]. Interest in the video of the skillbuilder and simulated Complex Instruction lesson seemed high to Whyte, but she also had concerns that she rushed the pace of the explication and discussion of how the clips of the simulation represented the four elements of the classroom as an organization.

In a team-taught introductory course for preservice teachers that Ellis taught in Vermont fall semester 2000, the members of the class had a prescribed set of readings with weekly seminars and nine observations in a nearby school where no teachers were using Complex Instruction. The faculty team had planned the course without including the topic of groupwork. Ellis was able to infuse some information about groups by integrating norms and roles into seminar activities, but there was not the latitude to teach much about the sociological theory related to Complex Instruction or even to do a simulation of Complex Instruction. The students had experienced one skillbuilder to

[1]The instructions to students for the final drawing and accompanying writing are attached to this text as an appendix.

teach cooperative norms, Broken Circles, and had read one article about Complex Instruction, "Making Cooperative Learning Equitable," by Elizabeth Cohen, published in Educational Leadership in 1998.

Ellis gave her students the option to draw a picture of a "good" classroom before and after they had seminar discussions about groupwork and before and after they made observations of nearby classrooms. After seminar discussion and classroom observations they made comments on the drawings which they had made at the beginning of the semester and on two of the Florida students' drawings copied (in black and white) from the website.

Data Sources

The major data sources we are analyzing are the drawings made at the conclusion of the fall 2000 semester by the preservice teachers enrolled in the foundations course in Florida and those students' written commentaries. We also audiotaped most of the fall 2000 students in Florida meeting in focus groups to share drawings of "a teacher teaching and students learning" they had made early during the semester and to talk with one another and with Whyte about how they thought they might represent a well-organized classroom in their drawings at the end of the course.

Results

Our students' learning. The discussion of their own and of two Florida students' drawings by the Vermont preservice teachers, Ellis has concluded, reflected none of the concepts about appropriate arrangements or the teacher's role in groupwork that had been introduced in the article or seminar discussion. Instead these preservice teachers tended to recall their own experience as students and evaluated their own images and those of the other students by comparing them with the way their favorite classrooms (actually, favorite teachers' classrooms) had been arranged. They seemed to attribute their positive experience in part to the room arrangement. Most of the Vermont preservice teachers commented on the spareness of the Florida students' drawings. The Vermont preservice teachers would have liked more of the physical setting shown, such as student work on the walls, books, and paraphernalia around the room.

We are analyzing the end-of-semester drawings by the Florida students. A first read-through of the entire set of drawings for which we have permissions to study the drawings (N >90) by Whyte has yielded the impression that while, like the spring 2000 drawings, the fall 2000 drawings usually show students seated in small task groups, the fall 2000 drawings are different from the spring 2000 drawings in being more detailed and in the greater extent to which the drawings and the writing that accompanies them manifest appropriation of labels, images, and even systems of conceptual and pedagogical tools for managing groupwork in the elementary or secondary school classroom.

To date, Whyte has completed a second close reading of the drawings and writing by one of the four sections of the fall 2000 semester course (one of the three sections taught by teaching assistants rather than the section taught by Whyte). Of the 25 drawings (with accompanying writing) produced by this section, 18 show students organized in small task groups. Whyte coded three of these 18 drawings of groupwork as manifesting systematic appropriation of conceptual and pedagogical tools for managing groupwork in the classroom, seven as manifesting partial appropriation of those conceptual and/or pedagogical tools, and eight as manifesting nonappropriation (Grossman et al. 1999) of the conceptual and pedagogical tools for organizing groupwork which has been presented during plenary class sessions and in the course text.

Whyte has re-examined three drawings coded "systematic appropriation" and has re-read the writing that accompanied them. She has noted that one of these three students who drew a classroom and wrote an accompanying essay manifesting systematic appropriation of conceptual and pedagogical tools for managing groupwork drew a classroom she had experienced in secondary school, where structures were present that are consistent with the conceptual and pedagogical tools for managing groupwork presented during the preservice foundations course. One of these three students synthesized and applied information from the course textbook to create her drawing of a classroom. And one of the three relied for the images in her drawing on an observation she had made during the semester of a high school math teacher.

We know from Whyte's initial reading of all the fall 2000 drawings that there are drawings in this set that include physical details of the "Why We Build" simulation: drawings of students sitting in small groups that are building model bridges, tents, and

houses and drawings of materials bins and role charts on classroom walls like the bins and role chart used during the simulation (and discussed during the debriefing of the video).

What we are learning as practicing teachers of teachers about our own pedagogy. Our learning as practicing teachers falls into seven categories.

1. Drawing is a means of concretizing teachers' understanding of pedagogical and conceptual tools. We will expand the drawing requirement to storyboards next semester. Whyte has found that her students every term are intrigued by Weber and Mitchell's (1995) research on drawings of teachers and have much to say in response to these drawings, which represent transnational archetypal dimensions of teaching. Our enthusiasm for drawings as a way to employ our own students' multiple abilities to further their appropriation of the technology of teaching has remained strong and is increasing, because of the tacit assumptions about teaching that the drawings manifest.

During fall 2000 in Vermont and spring 2001 in Alabama, where Whyte now teaches, we have plans to expand the requirement that our students represent a soundly organized classroom graphically as well as verbally. During these terms, we plan to expand the drawing task to the task that each student make a storyboard representing a soundly organized classroom where multiple-

abilities group tasks are in process—in order to develop our students' sense of timing and sequence of events in groupwork. For example, a storyboard might show a student exhibiting competence and the teacher observing. Next, the teacher could be shown talking to the group and assigning competence to the student. Finally, the teacher could be moving away from the group as its members eagerly seek help from the student who was assigned competence.

2. *Reiterative analysis of the data is bringing Whyte from an emotional verdict of "this course didn't work" to mutual identification with Ellis of patterns of constructive partial appropriation—what worked and what did not work and how.* Whereas Whyte's first impression of the drawings at the end of this fall 2000 semester was that the pedagogical processes she had used had been ineffective—because of the degree to which many students' appropriation of the conceptual and pedagogical tools taught was partial rather than systematic and consistent, returning reiteratively to these data, conferring with Ellis, hearing what Ellis sees in these same data, and re-reading Grossman et al.'s (1999) research on preservice and beginning teachers' appropriation of conceptual and pedagogical tools complicated Whyte's initial emotional verdict that "this course didn't work." Our analysis of the fall 2000 drawings is beginning to highlight *patterns* of representation and misrepresentation of conceptual and

pedagogical tools which occurred—and Ellis is readily available to imagine with Whyte what Whyte might say and do to teach misrepresented conceptual and pedagogical tools during the next iteration of the course (and during the several courses and internships on Whyte's teaching schedule before spring 2001).

3. Multiple, complete simulations are important for understanding the nature of teaching and learning through group tasks. When Ellis pointed out that the teachers in Vermont with whom Ellis has worked had learned a great deal when three of them designed a unit and used the Complex Instruction practicum to teach a three-day continuum of activities around one "big idea," Whyte resolved to use more than one session for Complex Instruction simulation. The elementary students who participated in Ellis' practicum progressed from confusion about the activities and purpose of groupwork and about appropriate behavior during groupwork on the first day to competence, understanding of the roles within groups, and understanding of the norms for groupwork on the third day. When the teachers realized that the disarray on the first day was simply a typical beginning, they adjusted their expectations. Later in the year when they used Complex Instruction in their own classrooms, they were not alarmed by similar student disarray on the first day of a unit.

Whyte will expand the simulation of Complex Instruction the preservice teachers experience from one day to two four-day rotations. Ellis has had success using in-class simulations for introducing teachers to the general structure of Complex Instruction, with small groups working on different activities simultaneously, group members playing assigned roles, and norms posted as reminders for group work behavior. A documented example of the effectiveness of rotation through a Complex Instruction unit is Vermont teacher Suzanne McKegney's collection of three group products from a Revolutionary War unit activity that required students to make a time line of the last three hours of Crispus Attucks' life. The first day's product had a horizontal line with some marks on it and one or two events. The second day the group divided the line into six 30-minute segments and labeled each segment with an event. The class criticized this product, saying that events don't happen that way in real life. The third day, the group made a three-hour time line, identified the important events, and placed them along the time line where they imagined they might happen in real life. We surmise that the third group's product would not have been so sophisticated if it had not been for their observation of the first two group products.

Whyte will act on suggestions from Ellis that Whyte incorporate into the simulations in her Alabama classes eliciting group members' responses to playing the part of "non-readers" or "non-

English speakers" and that an introductory discussion of low-status behavior can be productive after a simulation that forces some of the group members to experience low status in a nonthreatening, simulated situation. Following two consecutive four-day rotations, with different English language arts curriculum content, Whyte will work with her students as they review the labels for the conceptual and pedagogical features that were common to the two rotations they experienced and then analyze other group tasks for the presence or absence of essential features of group tasks.

4. Showing videotapes of practicing teachers and their classrooms on a website, supplemented by interactive television, may generate interaction between teachers in different geographic regions. Ellis has used digital video to supplement the Complex Instruction teacher observation instrument when she observes teachers in preparation for giving them feedback. She has been able to show teachers the specifics of their instruction in addition to graphing the collected data from the teacher observation instruments. Some teachers who were videotaped have been able to talk themselves through the feedback session, spotting incidents Ellis would have chosen to illustrate the findings in the data and making comments Ellis had been prepared to make. Thus Ellis learned how effective these videotapes were. She could see how well these teachers

understood the principles central to Complex Instruction although they were having difficulty enacting them in their classrooms.

Whyte and Ellis are talking now about making short video clips from the tapes of Ellis' practicing teachers to use as models on the website for preservice and inservice teachers to critique when they are learning the principles of Complex Instruction. We think that seeing the tapes will concretize the principles of Complex Instruction, making them more vivid and memorable. To foster quantity and high quality in this electronically transmitted criticism of videotapes of practicing teachers, we will follow the suggestions of Sherry, Tavalin, and Billig (2000) for ways to generate good online conversation: a goal for each conversation, published guidelines for online conversations, articulating thinking processes, valuing multiple perspectives while resolving conflicts, having the teacher clearly state her intent in having created the video clip that is posted, and using a mix of challenging and supportive comments.

Regarding focusing the teachers' attention on the website, we are assuming that students in large classes or even in classes of 20 or 30 have trouble focusing on a screen or TV monitor showing a website. We think it may be easier to engage the students as

individuals when they sit in front of their own computer, in control of the keyboard, interacting with the web site themselves. Students will then be looking at their own computer monitor and will have time to think. Ellis has observed that in an online course on Complex Instruction taught by Dr. Charles Rathbone at the University of Vermont such an arrangement, combined with real-time interactive television sessions, has generated extensive, reflective interaction among teachers learning to manage group tasks. The caliber of this electronically transmitted interaction exceeds any conversation among teachers she has heard in face-to-face institutes for training teachers in Complex Instruction, Ellis says. Several teachers in Vermont who are expert Complex Instruction teachers and the former directors of the Program for Complex Instruction, Elizabeth Cohen and Rachel Lotan, are good candidates for these interactive television sessions.

5. Using the instruments developed by the Program for Complex Instruction with videotapes of live classrooms should become part of the professional development for teachers and not limited to observer training. We both have used videotapes of teachers to train classroom observers to use observation instruments developed by the Program for Complex Instruction. We have not, however, used the observation instruments with the videotapes to

teach inservice or preservice teachers to implement Complex Instruction. If the observation instruments help clarify the teacher behaviors important to Complex Instruction and if videotapes are useful for discussing specific incidents and cases, it seems to be a good idea to use the observers' training routines for practicing teachers as well. We need to think about training the teacher as one would teach the observer. We might, additionally, try providing transcripts of short video clips. Teachers could analyze each step of the way, using the teacher/whole class/target student instruments.

6. Helping teachers adapt and develop curriculum for their classrooms should become a central part of the professional development program. Designing curriculum has been a stumbling block for new Complex Instruction teachers to overcome. There is very little material available that does not need to be adapted. Teachers often create their own units from a variety of sources. In Vermont, school districts often mandate particular curricula. The mandated curricula need to be evaluated to see how difficult they are to adapt for Complex Instruction. Thus curriculum work with teachers may be a way to engage them in meaningful work and the use of Complex Instruction principles. When helping teachers with curriculum design, the Complex Instruction trainer could

emphasize definitions of the "big idea" and development of it, use of evaluation criteria within the activity, assessment, and what makes a task a group task and not just an individual task.

7.Accepting and building on our students' tacit beliefs that learning is an individual process must accompany instruction that teaches conceptual and procedural tools for learning as a social process. Suzanne McKegney, a Complex Instruction teacher in Vermont, wrote in the closing paragraph of the project for the Master's Degree which the University of Vermont awarded her March 2001:

> I consider my first experience with Complex Instruction to be a great success. Students of all abilities and status levels were actively involved in constructing understanding of sophisticated concepts beyond the ability of any individual to achieve. I am enthusiastic about continuing the work begun in this project and in sharing it with others; however, in recommending this method of instruction to a colleague, I would be careful about my choice of words. Complex Instruction is not simply a method of designing groupwork. It is a philosophy of working with children that requires a relentless, sustained belief in the ability of every child to learn and contribute in a meaningful way to the learning of others. A Complex Instruction program is not a four-day rotation of activities, it is a commitment to the development of a learning environment which values each individual and believes in the power of shared knowledge.

> The preservice teachers in our classes tend to think about education from an individual-learning point of view rather than from a sociological point of view. As Holt-Reynolds (1992) has argued, perhaps we can accept that beliefs based on our students' personal histories, including the tacit images of teaching our students draw from, are conceptualizations of teaching that are cohesive and legitimate. We can begin where our students are by looking at individual student learning in a group, talking about the individual's experience as a low-status or high-status member of the group and using videotapes of students assigned competence and of the improved interaction that follows that assignment of competence (including videotape of Vermont teacher Suzanne McKegney). We can then look at the class as a social system and at developing ideas about Expectation States Theory and the relativity of status rankings.

What we have learned as researchers attending to teacher learning. We are not sure yet what appropriation of the conceptual and pedagogical tools for managing group tasks will occur when preservice teachers interact with experienced Complex Instruction teachers in conversations centered on drawings and on videotapes of groupwork. We do not know yet what reiterative analytic search of key propositions by practicing teachers will occur in the context of that interaction.

The data we have now are improving our understanding of what patterns of nonappropriation, what patterns of constructive partial appropriation, and what patterns of consistent and systematic appropriation of conceptual and pedagogical tools are *manifest in the drawings of groupwork and of whole-class instruction generated by the* students who experienced the set of interaction processes Dixon and Whyte (in press) have described for connecting foundations course content with the technology of the K-12 classroom. These patterns of appropriation we are beginning to be able to discern and describe will help identify which of the learnings as teachers we have described here we can have the confidence in to teach according to during the 2001-2002 academic year—and which of these drawings we are likely to be able to warrant in presentations and publications.

Conclusions

To help teachers connect with their own experience, we can ask them to recall stories from their life—early in our work with them and continually as our work with them proceeds. When preservice teachers have trouble recalling experiences which relate to learning how to teach through group tasks, they may not have had enough experience as members of student groups.

We can first draw on teachers' all-too-familiar experience doing individual work in classrooms, asking them to remember individual tasks from which they learned a great deal. We can then ask them to describe any experiences they have had as students studying in groups. We can explore what they know from experience. If they haven't

had enough experience with groupwork, we can have a ready bank of video clips for them to watch so they can see what can happen in groups, both positive and negative experiences. Viewers would have to be able to identify with the students.

Grossman et al. (1999) suggest that whether learners reconstruct the surface features and/or conceptual underpinnings of knowledge, methods, and materials in ways consistent or inconsistent with the original conception "depends on the social context of learning and the individual characteristics of the learner" (p. 17). Whyte's new role working with the same preservice teacher during his or her methods, rhetoric and composition, and in some cases "topics in research" coursework and then during his/her student teaching provides us with opportunities to follow teachers longitudinally throughout their one to two years of precertification coursework, including student teaching, and beyond certification--in order to understand better in what ways teachers whose work and stories we know have assimilated--have mastered or partially appropriated or not appropriated—the sociological principles and teaching practices they have experienced and learned through the structures we have collaborated to design. We can examine what features of the context where these teachers work and what individual teacher characteristics[1] accompany particular patterns of nonappropriation, partial appropriation, and systematic appropriation of the principles and associated practices developed by the Program for Complex Instruction. We can learn more about what reiterative analytic search of key propositions occurs, and under what circumstances, after the initial year or more of certified teaching.

---

[1]Such individual characteristics include the apprenticeship of observation experienced in school, personal goals and expectations, and knowledge and beliefs about content (Grossman et al. 1999).

References

Bakhtin, M. (1981). *The dialogic imagination.* Austin: University of Texas.

Britzman, D. P. (1991). *Practice makes practice.* Albany: State University of New York Press.

Bowman, C. A. (2000). Personal communication.

Bruner, J. (1985). Narrative and paradigmatic modes of thought. Invited address at the American Psychological Association annual meeting. Toronto, Canada.

Clandinin, D. J. (1986). *Classroom practice: Teacher images in action.* Philadelphia: Falmer Press.

Cohen, B. P. & Cohen, E. G. (1991). From groupwork among children to R&D teams: Interdependence, interaction, and productivity. *Advances in Group Processes,* **8**, JAI Press.

Cohen, E. G. (1994). *Designing groupwork: Strategies for heterogeneous classrooms (2nd ed.).* New York: Teachers College Press.

Cohen, E. G. & Lotan, R. A. (Eds.) *Working for equity in heterogeneous classrooms: Sociological theory in practice.* New York: Teachers College Press.

Cohen, E. G., Lotan, R. A. & Holthuis, N. C. (1997). Organizing the classroom for learning. In Cohen, E. G. & Lotan, R.A. (Eds.), *Working for equity in heterogeneous classrooms: Sociological theory in practice.* New York: Teachers College Press.

Comstock, D. E. & Scott, W. R. (1977). Technology and the structure of subunits: Distinguishing individual and workgroup effects. *Administrative Science Quarterly,* **22**, 177-202.

Connelly, F. M., Clandinin, D. J. & Ming Fang He. (1997). Teachers' personal knowledge of the professional knowledge landscape. *Teaching and Teacher Education,* **13**, 665-674.

Dixon, P. and Whyte, A. (in press). Taking the bricks out of the walls: Curricular coherence through oral and written interaction. *Journal on the Art of Teaching.*

Elbaz, F. (1983). *Teacher thinking: A study of practical knowledge.* London: Croom Helm.

Ellis, N. E. & R. A. Lotan. (1997). Teachers as learners: Feedback, conceptual understanding, and implementation. In Cohen, E. G. & Lotan, R. A. (Eds.), *Working for equity in heterogeneous classrooms: Sociological theory in practice.* New York: Teachers College Press.

Fenstermacher, G. D. (1994). The knower and the known: The nature of knowledge in research on teaching. In Darling-Hammond, L. (Ed.) *Review of Research in Education,* **20**, 3-56.

Grossman, P. L., Smagorinsky, P. & Valencia, S. (1999). Appropriating conceptual and pedagogical tools for teaching English: A conceptual framework for studying professional development. National Research Center on English Learning & Achievement report series 12011. ERIC document 431 198.

Gudmundsdottir, S. (1990). Curriculum stories. In C. Day, C., Denicolo, P. & Pope, M. (Eds.) *Insights into teachers' thinking and practice.* London: Falmer Press.

Holt-Reynolds, D. (1992). Personal history-based beliefs as relevant prior knowledge in coursework. *American Educational Research Journal*, **29**, 325-349.

Johnston, S. (1992). Images: A way of understanding the practical knowledge of student teachers. *Teaching and Teacher Education,* **8**, 123-136.

McNeil, L. (2000). *Contradictions of Reform.* Routledge.

Munby, H. and Russell, T. (1989.) Metaphor in the study of teachers' professional knowledge. Paper presented at the annual meeting of the American Educational Research Association, San Francisco.

Oakes, J.& Lipton, M. (1999). *Teaching to Change the World.* McGraw-Hill.

Perrow, C. (1967). A framework for the comparative analysis of organizations. *American Sociological Review,* **32**,194-208.

Senger, E. S. (1999). Reflective reform in mathematics: The recursive nature of teacher change. *Educational Studies in Mathematics*, **37**, 199-221.

Sfard, A. (1998). On two metaphors for learning and the dangers of choosing just one. *Educational Researcher*, **27**, 4-13.

Sherry, L., Billig, S. H., and Tavalin, F. (2000). Good online conversation: Building on research to inform practice. *Journal of Interactive Learning Research*, **11**, 85-127.

Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, **57**, 1-22.

Swanson, P. E. (1997). Linking sociological theory to practice: An intervention in preservice teaching. In Cohen, E. G & Lotan, R. A. (Eds.), *Working for equity in heterogeneous classrooms: Sociological theory in practice.* New York: Teachers College Press.

Weber, S. J. and Mitchell, C. A. (1995). *That's funny, you don't look like a teacher!* Falmer Press.

Whyte, A. I. (2000). Rearranging desks. In H. Scarborough (Ed.) *Writing Across the Curriculum in Secondary Classrooms: Teaching from a Diverse Perspective.* Merrill Publishing Company.

Wideen, M., Mayer-Smith, J., & Moon, B. (1998). A critical analysis of the research on learning to teach: Making the case for an ecological perspective on inquiry. *Review of Educational Research*, **68**, 130-178.

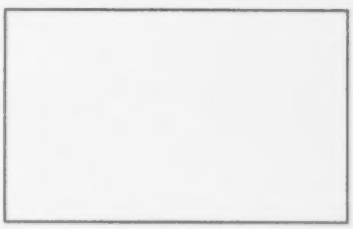
EDF 1005 – Introduction to Education
Fall 2000
Sections 1-4
Guidelines for the Final Project

Your final project will represent the four essential elements of the classroom as an organization through image(s) of a teacher teaching and students learning and an essay.

IMAGES OF TEACHING

Draw a visual example of each of the four essential elements of the classroom as an organization. The drawing(s) should represent a conceptual understanding of each of the elements. You may represent the drawing of each essential element in an individual frame or all four working together in one frame.

Four Individual Frames



One Frame

ESSAY

Suggested Guidelines for your essay:

- Your essay should describe your drawing(s) in detail.
- You should tie each essential element to concepts in the book; the connections should be through the use of specific quotes from your text, and the content of the text you choose should be the major concepts within and/or across chapters
- Explain why you chose to represent each essential element in the manner you did.

It is suggested that you use the first four paragraphs for each of the essential elements. The final paragraph must describe how the whole system you represented relates to what you have observed in the classroom(s) you have observed.

You may want to write the essay as an epistolary essay: in the form of a letter to your section instructor or to a general "reader."

NOTE: ***This final project is a synthesis of what you have learned in this course. You are expected to support your findings through evidence and through reasoning (logic, including interpretation of the evidence you've selected).***